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**Tactile or kinaesthetic warning of inter-vehicular collision hazard -  
uses vibration felt by driver when fuel supply is interrupted on  
dangerously close approach**

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Number of Countries: 005 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 348691	A	19900103	EP 89110084	A	19890603	199002 B
DE 3822193	A	19900104	DE 3822193	A	19880701	199003
EP 348691	B1	19940316	EP 89110084	A	19890603	199411
DE 58907205	G	19940421	DE 507205	A	19890603	199417
			EP 89110084	A	19890603	

Priority Applications (No Type Date): DE 3822193 A 19880701

Cited Patents: A3...9015; DE 2555429; DE 3332664; No-SR.Pub

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

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Designated States (Regional): DE FR GB IT SE

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Designated States (Regional): DE FR GB IT SE

DE 58907205 G B60Q-001/52 Based on patent EP 348691

Abstract (Basic): EP 348691 A

Rangefinding devices at the front and/or rear of the vehicle are wired to a processor which extracts information for alerting the driver, e.g. to an instant when the distance from a preceding or following vehicle falls short of the min. safe spacing. The processor reacts on an electronic fuel injection system so as to interrupt the supply of fuel during one ore more ignition cycles. This results in uneven running of the engine, or loss of power which is detectable by the driver as vibration of the steering column or driving seat.

**ADVANTAGE** - Does not improve a visual or aural overload on driver; nor does it depend upon contact between right foot and accelerator pedal.

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Abstract (Equivalent): EP 348691 B

Method and device for haptic display of distance warning in a motor vehicle using distance sensors and an evaluating electronic system, which effects the distance warning by vibration of the steering wheel, the driver's seat or the entire passenger cell, characterised in that multi-stage distance warning information is transmitted through the stepped intensity of and/or temporal variation in vibration.

Dwg.1/2

Title Terms: TACTILE; KINAESTHETIC; WARNING; INTER; VEHICLE; COLLIDE; HAZARD; VIBRATION; FELT; DRIVE; FUEL; SUPPLY; INTERRUPT; DANGER; CLOSE; APPROACH

Derwent Class: Q16; X22

International Patent Class (Main): B60Q-001/52

International Patent Class (Additional): B60Q-009/00

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